1	1. A method for preparing a substrate for detecting at least one				
2	analyte in a sample comprising the steps of:				
3	a) exposing the sample to at least two different selectivity,				
4	conditions, each selectivity condition defined by the combination of an adsorbent and an				
5	eluant, to allow retention of the analyte by the adsorbent;				
6	b) identifying by desorption spectrometry at least one selectivity				
7	condition under which the analyte is retained; and				
8	c) preparing a substrate comprising at least one adsorbent of an				
9	identified selectivity condition.				
1	2. The method of claim 1 wherein the step of identifying comprises				
2	identifying at least one selectivity condition under which a plurality of analytes are				
3	retained.				
1	3. The method of claim 1 wherein the step of preparing comprises				
2	preparing a substrate comprising a plurality of adsorbents that retain the analyte under an				
3	elution condition as a multiplex adsorbent.				
1	4. A method for progressively identifying a selectivity condition with				
2	improved resolution for an analyte in a sample comprising the steps of:				
3	(a) identify a selectivity condition that retains an analyte in a				
4	sample by:				
5	(i) exposing a sample to a set of selectivity conditions, each				
6	selectivity condition defined by at least one binding characteristic and at least one elution				
7	characteristic;				
8	(ii) detecting analyte retained under each selectivity				
9	condition by desorption spectrometry; and				
10	(iii) identifying a selectivity condition that retains the				
11	analyte; and				
12	(b) identifying a selectivity condition with improved resolution for				
13	the analyte by:				

14	(i) selecting at least one binding characteristic or elution			
15	characteristic from the identified selectivity condition and adding it to a selectivity			
16	characteristic constant set;			
17	(ii) exposing the sample to a modified set of selectivity			
18	conditions wherein each selectivity condition in the modified set comprises (1) the			
19	selectivity characteristics in the constant set and (2) a binding characteristic or elution			
20	characteristic that is not in the constant set; and			
21	(iii) identifying a selectivity condition from the modified set			
22	by desorption spectrometry that retains the analyte with improved resolution compared			
23	with a prior identified selectivity condition.			
1	5. The method of claim 4 further comprising the step of repeating step			
2	(b) at least once.			
1	6. The method of claim 5 comprising repeating step (b) until a			
2	selectivity condition is identified that retains only the target analyte from the sample.			
1	7. A substrate for desorption spectrometry comprising an adsorbent			
2	from a selectivity condition identified to resolve an analyte by the method of claim 4.			
1	8. The substrate of claim 7 in the form of a kit further comprising an			
2	eluant from the selectivity condition or instructions on using the eluant in combination			
3	with the adsorbent.			
1	9. A method for determining whether an analyte is differentially			
2	present in a first and second biological sample comprising the steps of:			
3	a) determining a first retention map for the analyte in the first			
4	sample for at least one selectivity condition;			
5	b) determining a second retention map for the analyte in the second			
6	sample for the same selectivity condition; and			
7	c) detecting a difference between the first and the second retention			
8	maps;			

9	whereby a difference in the retention maps provides a determination			
that the analyte is differentially present in first and second samples.				
1	10. The method of claim 9 wherein the first biological sample derives			
2	from a healthy subject and the second biological sample is from a subject suffering from			
3	a pathological condition.			
1	11. The method of claim 9 wherein the biological samples comprise			
2	first and second cell extracts.			
1	12. The method of claim 9 wherein the retention map comprises a			
2	plurality of selectivity conditions.			
1	13. The method of claim 9 comprising, before the step of detecting, the			
2	step of converting the analyte into at least one fragment whose molecular mass smaller			
3	than the mass of the analyte.			
1	14. The method of claim 9 wherein the step of detecting a difference is			
2	performed in a programmable digital computer.			
1	15. The method of claim 9 for determining whether an agent alters the			
2	expression of a protein in a biological sample further comprising the step of			
3	administering the agent to a first biological sample but not to a second biological sample			
1	16. The method of claim 10 wherein the sample is selected from the			
2	group consisting of blood, urine, serum and tissue.			
1	17. The method of claim 10 further comprising identifying an analyte			
2	that is present in a greater amount in second biological sample than in the first biological			
3	sample, whereby the analyte is identified as a candidate diagnostic marker for the			
4	pathological condition.			

7	18. The method of claim 11 wherein the first cell extract is derived		
2	from a healthy cell and the second cell extract is derived from a cancer cell.		
1	19. A method of diagnosing in a subject a disease characterized by at		
2			
	least one diagnostic marker comprising the steps of:		
3	a) providing a substrate for use in desorption spectrometry that		
4	comprises at least one addressable location, each addressable location comprising an		
5	adsorbent that resolves at least one of the diagnostic markers under an elution condition;		
6	b) exposing the substrate to a biological sample from the subject		
7	under the elution condition to allow retention of the diagnostic marker; and		
8	c) detecting retained diagnostic marker by desorption spectrometry;		
9	whereby detecting retained diagnostic marker provides a diagnosis		
10	of the disease.		
1	20. The method of claim 19 wherein diagnosis involves detection of a		
2	plurality of diagnostic markers and the addressable locations comprise adsorbents that		
3	resolve the plurality of diagnostic markers.		
1	21. A kit for detecting an analyte in a sample comprising (1) a		
2	substrate for use in desorption spectrometry that comprises at least one addressable		
3	location, each addressable location comprising an adsorbent that resolves an analyte		
4	under a selectivity condition comprising the adsorbent and an eluant, and (2) the eluant		
5	or instructions for exposing the sample to the selectivity condition.		
1	22. The kit of claim 21 for the diagnosis of a disease wherein the at		
2	least one analyte is at least one diagnostic marker for the disease.		
2	·		
1	23. The kit of claim 22 wherein the disease characterized by a plurality		
2	of diagnostic markers and the substrate comprises a plurality of addressable locations,		
3	each addressable location comprising an adsorbent that resolves at least one of the		
4	diagnostic markers.		

24.	The kit of claim 23 wherein at least one adsorbent is a multiplex		
adsorbent comprising	adsorbent species that each retain at least one diagnostic marker.		
25.	The kit of claim 23 wherein at least one adsorbent does not		
comprise a biopolymer.			
26.	The kit of claim 23 wherein at least one addressable location		
comprises a ligand specific for a diagnostic marker.			
27.	The kit of claim 26 wherein the ligand is an antibody.		
28.	A substrate for desorption spectrometry comprising at least one		
adsorbent in at least one addressable location wherein the at least one adsorbent resolve			
a plurality of diagnostic markers for a pathological condition from a patient sample.			
29.	The substrate of claim 28 wherein at least one adsorbent does not		
comprise a biopolymer.			
30.	The substrate of claim 28 wherein one adsorbent resolves the		
plurality of diagnostic markers.			
	25. comprise a biopolym 26. comprises a ligand sp 27. 28. adsorbent in at least a plurality of diagnost 29. comprise a biopolym 30.		